

**ALL PAKISTAN LPG
DISTRIBUTOR'S ASSOCIATION**

PLAN ACTIVITIES OF ASSOCIATION

MUNEER AHMED & CO.
CHARTERED ACCOUNTANTS

No.5, Masoom Shah Bukhari (WQF)
New Neham Road Kharadar
Karachi-74000. Ph.2314562

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Muneer Ahmed & Co.

Chartered Accountants

5. Masoom Shah Bukhari Trust
New Neham Road, Kharadar
Karachi-74000 Ph: 2314562



Muneer Ahmed Memon

B.Com. FCIS, FCA.,

AUDITOR'S REPORT

We have audited the annexed Activities Plan of Purposed Association namely **ALL PAKISTAN LPG DISTRIBUTOR'S ASSOCIATION** and we report that.

We have examined contents of the plan and found in accordance with the requirements of association activities as provided under rules 9.

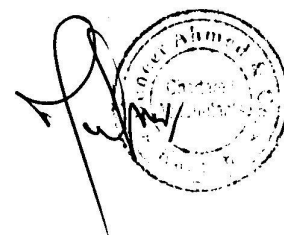


Chartered Accountant
Karachi

ALL PAKISTAN LPG DISTRIBUTOR'S ASSOCIATION
ACTIVITIES PLAN OF PURPOSED ASSOCIATION

a) **SHORT TERM PLAN**

The purposed Association has following short term activities plan:

- 1) To set up its Central Executive Committee Office and appoint its paid office staff including secretary as required under companies ordinance 1984.
- 2) To established its North circle and South circle office and elect /select its zonal office bearer.
- 3) Under North & South circle to established its offices on city/town basis.
- 4) To established its committee/sub-committee to increase its membership, at present there are about 1700 L.P.G. Distributors all over the country.
- 5) The present Govt. has deregulated the L.P.G. industry and allowed to make setup LPG Auto station with lay down safety standard and with some conditions related with the environment. Moreover the L.P.G. import has been made feasible. Due to these reason the purposed Association has to come up with the present situation and has to set some short term & long term purposed activities plan for the benefit of their L.P.G. Distributors community and country at large.
- 6) The purposed Association to bring the L.P.G. distributors in the net of G.S.T. and Income Tax.
- 7) Through seminars and publication/advertisement to bring awareness every distributors of L.P.G. must obey the safety rules and immediately to the following steps.
 - a) As every one is aware that LPG is comparatively high pressure gas and needs
To be handled with care and with all precautions so that every one can benefit from this commodity.
 - b) The first step is to use only those cylinders which are made on prescribed International Standards and tested after every four to five years.
 - c) Every one should say No to sub standard cylinders presently rolling in the Market.
 - d) The distribution shops must obey the safety rules; their electrical installation must be explosion and fire proof.



- e) The cylinders should be handled with care, especially when unloaded from Trucks.
- f) Every shop should keep Fire fighting equipment and should be tested at least once a year.
- g) Instruction in local Language about handling of LPG must be displayed on prominent places of the shop.
- h) No smoking Signs should be written/displayed at every shop.
- i) The staff employed should be well trained and conversant to fire fighting.
- j) There should be no bakery, welding shop or any other business using Fire in the neighborhood.
- k) The Vehicles with spark plug should not be allowed to come too near to the LPG Business.
- l) No rolling of cylinders on ground/roads is allowed by any one, under-any circumstances.
- m) During Unloading of trucks the cylinders should not be through from height of truck.
- n) The leakage of gas from gas cylinder valve should have immediate response.
- o) The gas is heavier then Air and settled on the ground of closed rooms, any spark can cause explosion and subsequently result in loose life and property.
- p) The shops and cylinders stores should have ventilation for leaked gas, it should not gather on ground.
- q) The gas filled cylinders should be stored under shade or in some comparatively cool place so that the pressure should not exceed the permissible limits.
- r) The LPG cylinder Valves and their attached safety valves should be checked regularly and any fault thereof be rectified before further use.



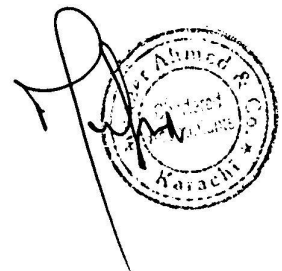
b) **LONG TERM PLAN**

Long Term activities plan of purposed association is as under:-

- 1) To setup training centre and at moment there are no signed training/ education Institution where the people can get training or technical education regarding L.P.G. handling.
- 2) The purposed Association has planned to establish such training centre/technical institution.
- 3) As per rules of Trade Ordinance the purposed Association, set up their own website.
- 4) To appoint legal consultant and chartered Accountants/ Firms.
- 5) The purposed association shall took after the following step in its long term
Purposed plan as under:-
 - a) One of the future objects of distributor's association is to over come the high prices and competition free market and control price availability to consumer and public sector. The current producers' prices of LPG coupled with the marketing companies profit margins make it unaffordable to the common man living in the village.
 - b) LPG has been used as Auto Gas for a number of years in many countries around the world. In most countries the Government has played an instrumental role in legalizing its usage as an auto fuel and has primarily been driven by the following factors:
 - Its clean burning properties with very low amounts of pollutant
 - Its relatively lower price to Petrol and other fuels and
 - Its relative ease, with which it can be transported.

Pakistan has witnessed an increase in the production of LPG by over 60% in the last 12 months. This has enabled LPG to become available in all those areas where previously due to a shortage of supply the product was not available. Unlike most countries, Pakistan has an extensive natural gas pipeline network covering most of the major cities.

 - c) However there are still a number of cities and villages that do not have access to natural gas and therefore resort to using other fuels. These include bio mass, wood, kerosene and LPG.
 - d) This is not to say that the increased production has not benefited these people. More LPG is being consumed today in areas where there is no natural gas, than was the case a year ago.



- e) However; due to its relative inexpensiveness to petrol, more and more LPG is being consumed by the auto sector in Pakistan. The primary users in this sector are the rickshaws and taxis. This paper will present a detailed comparison of fuel costs, but suffice it to say that a user of LPG can travel the same distance as that of a user of Petrol in about less than half the cost.
- f) With the increase in production of LPG and the recent hike in petrol prices the auto sector accounts for more than half the consumption of LPG in Pakistan. Attempts by the authorities to curb its usage have always been met with severe resistance from its users and to date have not been successful. This fact is not surprising because the common man driving a rickshaw or taxi can no longer afford petrol at the current prices. And with the petrol prices set to rise, this trend will only increase.
- g) LPG has been used as Auto gas since the 1970's. The increase in production coupled with its environmental benefits has driven the developed countries to adopt it as an alternative to conventional fuels.
- h) The association will organize seminars and conferences to aware the LPG consumer and public sector, each fuel has different emission characteristics, with consequently different impacts on public health. The key regulated pollutants, and their impacts on human health, are summarized below:

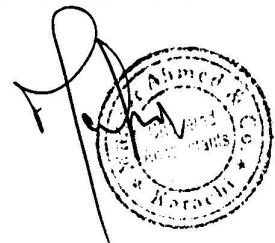
Oxides of Nitrogen (NOx) include several gaseous compounds made of nitrogen and oxygen emitted by both spark-ignition and diesel vehicles. Oxides of Nitrogen are lung irritants and can increase susceptibility to respiratory illness (especially asthma) and pulmonary infection.

In addition, NOx contributes to the formation of ground level ozone, which is a major constituent of smog. Smog severely irritates the mucous membranes of the nose and throat, which can lead to coughing and even choking. It also impairs normal functioning of the lungs and long-term exposure may cause permanent damage.

Volatile Organic Compounds (VOCs) or Hydrocarbons (HC) are gaseous organic chemical compounds derived from diesel, gasoline and most alternative fuels which also contribute to the formation of ground level ozone.

As well as being emitted from the tailpipe of motor vehicles, these compounds are also released to the atmosphere by vehicles during refueling, through evaporation via leaks in fuel filler caps, hot engine parts or failures in a vehicle's on-board vapor recovery systems.

Fine Particulate Matter (PM) is emitted by both diesel and spark ignition engines, though diesel sources tend to dominate. In 2002, after much research, the US EPA concluded that PM in diesel exhaust causes acute throat and bronchial irritation, poses a chronic respiratory hazard to humans, and is a likely carcinogen. Particles may also absorb potentially health-threatening organic "air toxics" found in engine exhaust.



Air Toxic (Unregulated) Pollutants

Diesel and petrol vehicles tend to have significantly higher emissions of a large group of hazardous chemicals, generically termed "air toxics", of which the most significant are considered to be benzene, formaldehyde, acetaldehyde and butadiene. Pollutants in this category are emitted in only very small quantities, but their high toxicity is a concern to health authorities. Extensive research is being undertaken to explore potential linkages with a number of "20th century diseases", including a very significant increase in asthma cases and other allergy-related illnesses.

Of particular concern is the tendency for these substances to attach themselves to fine particles in vehicle exhaust streams, where they can be inhaled into the most sensitive deep-lung tissue. The much higher particle emissions from diesel engines are suspected to represent a proportionally higher risk level.

LPG: A clean burning fuel

LPG Compared to:

Ultra- Low Sulphur Petrol	Ultra- Low Sulphur Diesel
15% to 80% less oxides of nitrogen	90% to 99% less oxides of nitrogen
20% to 40% less hydrocarbons	80% to 95% less particles
30% to 35% less carbon monoxide	99% to 99.8% less ultra-fine particles

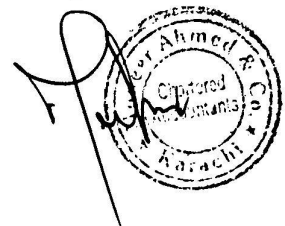
Table 1, above, summarizes LPG emissions compared with both ultra-low sulphur petrol and ultra-low sulphur diesel. Of particular note is the huge gap between diesel and LPG emissions of oxides of nitrogen (NOx) and fine particulate matter (PM).

NOx impairs the lung function in humans and is strongly linked to increases in asthma attacks. PM is a known carcinogen and intense efforts are underway to limit human exposure to this pollutant.

Over the coming decade and beyond, petrol, diesel, CNG and LPG will continue to be the most viable fuel types available to the motoring public and transport fleets. Rational decisions on fuel selection are strongly influenced by availability, cost (operating and capital) and suitability for any particular application. Using these criteria, it is highly unlikely that any single fuel will be the optimal choice for all transport needs, at least in the foreseeable future. However LPG as Autogas does have several advantages over other fuels:

LPG Advantages over other fuels

- The combustion of Auto-gas is smoother as a result of the higher octane content. Unlike other fuels, no additives are required to guarantee high quality.



- Auto-gas contains no lead and is therefore cleaner and leaves no residue.
- It is actually better than petrol because it reaches the engine in pure gas form with improved combustion resulting in fewer knocking.
- With modern technology, there is very little discharge of carbon monoxide, and compared to petrol and diesel, the exhaust fumes contain less harmful substances.
- The life of the engine is extended as a result of the absence of acids and carbon deposits. One can safely state that engines on LPG last almost twice than that on Petrol.
- Less carbon means less fouling of spark plugs and points i.e. less wear and tear.
- The engine oil does not become diluted with a consequential reduction in servicing costs.
- Unlike diesel, one does not have to adjust their driving style. Cold starting is no problem; engine performance is almost exactly the same as with petrol. There is no spilling when filling the tank and no possibility of theft or pilfering. Engine noise is low and one will be driving in a more environment-friendly way.

Categories of Vehicles:

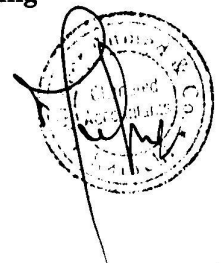
Light Commercial Vehicles (LCVs) are used very extensively in urban areas. These include rickshaws, taxis and private vehicles. Hence, although they can operate satisfactorily on any of the commercially available fuels, the deciding factor for the majority is the cost of the fuel and convenience of availability.

Medium Trucks, such as those widely used for urban delivery and freight carriage, currently operate almost on petrol and diesel. However LPG engines for mini buses and trucks are now available and these deliver measurable economic benefits, both in direct fuel costs and through extended access hours due to their lower noise levels.

Heavy-Duty Trucks, particularly those on long-haul operations, are effectively restricted to diesel operation, due to fuel availability considerations coupled with the ruggedness and fuel efficiency of heavy-duty diesel engines.

Dual fuel diesel/LPG or diesel/CNG trucks, in which a virtually standard diesel engine burns both fuels together, have demonstrated their ability to reduce PM and greenhouse emissions but to date have achieved only very minor penetration into the trucking market. Further work is needed to achieve satisfactory levels of reliability and consistency from these conversions, and to gain the confidence of the trucking industry.

Buses have traditionally used diesel, but the low cost of CNG, coupled with its reduced noise levels and "clean" image, has led to the recent ideas about converting them to CNG. Adoption of CNG involves significant investment in a fuel compression, storage and dispensing facility, as well as a large premium on the vehicle purchase price to cover the cost of installing and structurally supporting multiple high-pressure on-board fuel cylinders.



An alternative to this would be to convert buses on to LPG. These engines share with CNG the same low noise and emission levels, but do not require high-cost fuelling facilities, nor extensive vehicle modifications to accommodate the fuel tanks.

In summary, it can be seen that there is a continuing role for all the currently available fuels, over the foreseeable future. There is, however, considerable scope to improve air quality, reduce community health problems and lower greenhouse emissions through the increased uptake of both LPG and CNG.

Autogas(LPG): Safety Record

From the safety perspective in automobiles, LPG is considered as safe as any conventional fuel. Authorities worldwide have successfully carried out several crash and fire tests on auto LPG. The pressure at which CNG (at 200 bars) and LPG (at 5-7 bars) is stored also makes LPG a better and safer option. Experts also say that owing to the strength and integrity of the fuel tank, LPG is safer than petrol and is on par with diesel.

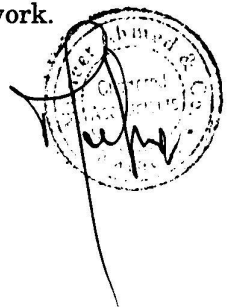
All tanks are fitted with relief valves that provide an escape for the gas should the tank come in contact with extreme heat. Tanks are not filled with more than 80% of total capacity. This ensures there is sufficient room for the liquid to expand when heated or the temperature being high. Moreover, in any eventuality of a leakage the gas escapes in the air and does not remain in the engine like petrol to catch fire.

Infact the use of Autogas is safer than Petrol as cylinders/tanks are kept horizontally in a car and the adapter allows the liquid to flow all the way to magnetic valves before converting to gas. An odorant is added to LPG so leaks can be detected by the distinctive smell. Autogas is a non-poisonous, non-toxic gas, so inhaling the fumes will not do any harm.

SUMMARY

Transport fuel choice has a major impact on the health and wellbeing of people living in Pakistani towns and cities. LPG is a naturally occurring and inherently low polluting automotive fuel that offers a number of social and economic benefits when compared with other commercially available fuels, including:

- Greatly reduced emissions of the two most harmful vehicle pollutants (PM and NOx), compared with emissions of these pollutants from diesel vehicles;
- Net hydrocarbon emissions ten times lower than comparable petrol vehicles;
- Much lower health cost impacts than diesel and petrol;
- 12% to 14% lower greenhouse gas emissions than petrol cars, and arguably lower life-cycle greenhouse emissions than diesel;
- Easily transportable; like petrol and is not dependent on a pipeline network.
- It is both more economical and efficient as compared to CNG and Petrol



Conclusion

It is evident that both developed and developing countries around the world have legalized the use of LPG as Autogas for two basic reasons:

- To control the level of pollution
- To provide relief to the common man who can no longer afford to pay for petrol

As mentioned above, most countries have offered some sort of subsidy to Autogas to encourage its use. In Hong Kong, where scarcity of land is a problem, the Government is offering land free of all costs to those who want to set up a petrol station; provided they supply Autogas from the same station.

At a time when most countries are offering subsidies to encourage the use of Autogas, which adds to their woes of budget deficits, in Pakistan its use is widespread with no formal subsidy in place.

It is the recommendation of this paper that the Government should allow the use of LPG as Autogas in order to

- Provide relief to the taxi and rickshaw drivers,
- To lower the level of pollution to a sustainable level and
- In order to ensure that all unsafe usage of LPG by the auto sector comes to a complete halt.

This is the only solution to the menace of decanting by distributors. Furthermore as opposed to subsidizing it, the Government could actually impose a tax on Autogas (currently non-existent). For example, the South Korean Government has imposed a flat tax on Autogas; 50% of existing tax on petrol.

